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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,911	09/23/2003	Thomas E. O'Brien	IO-1089US	2533

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EXAMINER
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LOBO, IAN J

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/668,911	<b>Applicant(s)</b> O'BRIEN ET AL.	
	<b>Examiner</b> Ian J. Lobo	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-18, drawn to a permanent seafloor seismic data acquisition system, classified in class 367, subclass 15.
  - II. Claims 19-22, drawn to a method for assembling a seismic data acquisition apparatus, classified in class 181, subclass 110.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group II and Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the seismic data acquisition apparatus can be made or assembled by a materially different process where the entire sensor block may be prefabricated and then lowered to the seafloor.
3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. During a telephone conversation with Mr. Bynum on August 5, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 19-22 are withdrawn from further consideration by the examiner, 37CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 6-16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Cretin et al ('502) or Hackett ('251).

See Cretin et al, col. 1, lines 24-67; col. 2, lines 11-20; col. 3, lines 1-62; col. 4, lines 19-67; col. 5, lines 1-14 and col. 6, lines 1-45. With respect to independent claims 1 and 11, Cretin et al discloses a permanent seismic data acquisition system that includes a sensor block having node architecture. The sensor block includes a backbone (9), a hub (PCLn) and one or more sensor modules (STn). The system further includes a surface controller (12).

See Hackett, Fig. 2. With respect to independent claims 1 and 11, Hackett discloses a permanent seismic data acquisition system that includes a sensor block having node architecture. The sensor block includes a backbone (14), a hub (T2-Tn) and one or more sensor modules (22). The system further includes a surface controller (12). The claimed limitation to a "seafloor" seismic data acquisition system is an intended use limitation and further it is noted that the structure of Hackett is capable of performing in an underwater environment.

Dependent claims 2, 6-10, 12-16 and 18 are further provided by Hackett or Cretin et al.

8. Claims 1, 2, 6-16 and 18 are rejected under 35 U.S.C. 102(a) as being anticipated by Page et al ('636).

See Page et al, Fig. 1. With respect to independent claims 1 and 11, Page et al discloses a permanent seismic data acquisition system that includes a sensor block

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having node architecture. The sensor block includes a backbone (150), a hub (140) and one or more sensor modules (120). The system further includes a surface controller (160). The claimed limitation to a "seafloor" seismic data acquisition system is an intended use limitation and further it is noted that the structure of Page et al is capable of performing in an underwater environment.

Dependent claims 2, 6-10, 12-16 and 18 are further provided by Page et al.

9. Claims 1-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Iseli et al ('627).

With respect to Iseli et al, it is noted that on col. 1, paragraph 5 suggests the seismic data acquisition's application to a underwater environment (hydrophones, airguns), even though the emphasis of the disclosure is to the land environment. Thus, the structure disclosed inherently would be applicable to the water environment. With respect to independent claims 1 and 11, Iseli et al discloses a permanent seismic data acquisition system that includes a sensor block having node architecture. The sensor block includes a backbone (112), a hub (104) and one or more sensor modules (106, 108). The system further includes a surface controller (102).

Dependent claims 2-10 and 12-18 are further provided by Iseli et al.

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3-5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cretin et al ('502) when taken in view of Iseli et al ('627) or Tanenhaus et al (962).

Claims 3-5 differ over the sensors disclosed in Cretin et al by claiming a multi-axis accelerometer. Claim 17 is specific to a multi-axis MEMS accelerometer.

Iseli et al and Tanenhaus et al each teaches a seismic data acquisition system wherein multi-axis MEMS accelerometers are used. The multi-axis MEMS accelerometer is advantageous in that there are three orthogonal axes of sensitivity and thus, a more accurate detection of acoustic energy waves afforded. Thus, to have modified the Cretin et al system by substituting a multi-axis MEMS accelerometer for the generic hydrophone disclosed in Cretin et al would have been obvious to one of ordinary skill in the art.

### ***Conclusion***


12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (703) 306-4161. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (703) 306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ian J. Lobo  
Primary Examiner  
Art Unit 3662

ijl